

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appl. No. 09/936,160
Attorney Docket No.: Q65858

AMENDMENTS TO THE DRAWINGS

Figures 1 and 8 are amended to include a numeric reference “17” and the label
“Peripheral Device”.

Figure 8 is also labeled -- Related Art --.

Attachment: Two Annotated Marked Up Drawings (2)

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REMARKS

Claims 1-13 are all the claims pending in the application. By this Amendment, Applicant amends claims 1, 2, 5, 6, and 8-11. Claims 1, 5, and 9-11 are amended to further clarify the invention and claims 2, 6, and 8 are editorially amended for better conformity with the US practice. In addition, Applicant adds claims 14-17. Claims 14-17 are clearly supported throughout the specification *e.g.*, Figs. 1 and 2 and corresponding description.

Summary of the Office Action

Claims 1-13 presently stand rejected. The Examiner also objected to the drawings.

Objection to the Drawings

The Examiner has objected to the drawings. Specifically, the Examiner has indicated that FIG. 8 should be designated with a --Related Art-- legend. Further, the drawings are objected to because they do not include the numeric reference "17", which is described in the specification (*see* page 3 of the Office Action). Applicant respectfully requests the Examiner to withdraw these objections in view of the self-explanatory amendments made herein.

Claim Rejections under 35 U.S.C. § 112, second paragraph

The Examiner rejected claims 2 and 6-10 under 35 U.S.C. § 112, second paragraph, for minor informalities. In view of the self-explanatory claim amendments made to claims 2 and 6-10, Applicant respectfully requests the Examiner to withdraw this rejection.

The Examiner has also rejected claims 1 and 5 as allegedly not being directed to the programming device described in the preamble (*see* pages 4 to 5 of the Office Action). Applicant respectfully traverses this rejection in view of the following comments.

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The preamble of claims 1 and 5 is directed to a programming device. The body of the claims 1 and 5 is directed to the elements of the programming device *e.g.*, program generation tools. Accordingly, the body of the claims 1 and 5 recite at least a portion of the composition of the programming device. As such, the body of the claim describes the programming device. Therefore, it is appropriate and necessary for the Examiner to withdraw this rejection of claims 1 and 5.

Claim Rejections under 35 U.S.C. § 103

Claims 1, 3-5, and 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,112,024 to Almond et al. (hereinafter “Almond”) in view of U.S. Patent No. 5,453,933 to Wright et al. (hereinafter “Wright”). Applicant respectfully traverses this rejection in view of the following comments.

The Examiner alleges that one of ordinary skill in the art would have been motivated to combine Wright with Almond to reuse compositions of previously defined objects (*see* page 7 of the Office Action). Applicant respectfully disagrees.

Almond relates to a development system providing methods for managing different versions of objects. The development tools may access an object stored on the object server via RPC. These various software development tools are programming languages such as Powersoft, PowerBuilder, Visual C++, and so on (col. 5, lines 9 to 21). These various development tools of Almond are unrelated to a design of numeric controllers that control production line machines. Wright relates to a CNC machine tool control system (col. 6, lines 13 to 19), and has nothing to do with various software development tools disclosed in Almond. One of ordinary skill in the art

would not have turned to an unrelated reference such as Almond in designing the CNC machine tool control system of Wright.

Moreover, if Almond and Wright are combined in the manner suggested by the Examiner, then each machine tool component (such as a table, a spindle, and a tool changer) would have its own development tool (such as Visual C++, Power Builder, and so on). This, however, would unjustifiably complicate the design of the CNC machine tool control system. That is, one of ordinary skill in the art would not have been motivated to use a different development tool for each machine tool component. In short, there is no motivation to combine the development tools set forth in Almond with the machine tool components of Wright.

In addition, the combined teachings of the references fail to teach or suggest the features set forth in the independent claim 1, which recites: “a group of program generation tools to generate programs for each of a plurality of devices forming part of a control system that controls a group of external machines; a data sharing unit adapted to interface with said group of program generation tools to share a variable name...corresponding to an object of each of said plurality of devices, wherein the plurality of devices includes at least two devices selected from a group of: a display device displaying status of each of the machines, a system supervision device detecting an abnormal condition of a production line comprising the group of machines, and a programmable controller for controlling one or more of the machines.”

The Examiner alleges that Almond *inherently* discloses sharing a variable name that corresponds to an object. Almond, however, discloses that the model separates the name of an object from where the object itself is actually stored and, as a result, Almond’s system can

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accommodate multiple names pointing to a single storage location. That is, in Almond multiple names can point to the same object or entity (col. 3, lines 11 to 17 and col. 6, lines 52 to 61).

Under the doctrine of “inherency,” if an element is not expressly disclosed in a prior art reference, the reference will still be deemed to anticipate a subsequent claim if the missing element “is necessarily present in the thing described in the reference” *Cont’l Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991). “Inherent anticipation requires that the missing descriptive material is ‘**necessarily present,**’ **not merely probably or possibly present,** in the prior art.” (emphasis added) *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 U.S.P.Q.2d 1597, 1599 (Fed. Cir. 2002); see also MPEP §2112.

In the present case, however, clearly the name does not have to be shared. On the contrary, the name is separated from the object’s location and multiples names can point to a single storage location. That is, Almond fails to explicitly, implicitly, or inherently teach or suggest the program generation tools sharing a variable name of the corresponding object. Wright does not cure the deficiencies in the teachings of Almond. Wright discloses inheriting attributes of another objects (col. 6, lines 21 to 40) and not sharing names or attributes between various development tools.

Moreover, the Examiner acknowledges that Almond does not teach or suggest the development tools generating programs for the devices that form part of a control system that controls a group of external machines, as set forth in claim 1. The Examiner, however, alleges that Wright cures the deficiencies in the teachings of Almond (*see* page 6 of the Office Action).

Wright, however, only discloses that some objects may inherit attributes of other objects and that the machine tool components are a table, a spindle, and so on (col. 6, lines 29 to 40). Wright, however, fails to teach or suggest the devices being at least two of: a display, a system supervision device, and a programmable controller. In Wright, the objects that may inherit attributes of the other objects are objects of the machine tool component such as the spindle. That is, Wright does not teach or suggest the devices being a display, a supervision device and/or a programmable controller.

Wright discloses that a CNC machine has a number of components (col. 1, lines 16 to 42). This disclosure, however, is provided by way of a background information to the CNC machining. Wright's disclosure focuses on machine tool components that can inherit various objects and thus, provide a CNC machine tool control that is easily modifiable (col. 5, lines 58 to 62 and col. 6, lines 13 to 40). The machine tool components are spindles, tables, tool changer, operator console, and not all of the components of the CNC machine. Accordingly, Wright does not cure the deficient teachings of Almond.

Therefore, "a group of program generation tools to generate programs for each of a plurality of devices forming part of a control system that controls a group of external machines; a data sharing unit adapted to interface with said group of program generation tools to share a variable name...corresponding to an object of each of said plurality of devices, wherein the plurality of devices includes at least two devices selected from a group of: a display device displaying status of each of the machines, a system supervision device detecting an abnormal condition of a production line comprising the group of machines, and a programmable controller

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for controlling one or more of the machines,” as set forth in claim 1 is not taught or suggested by Almond and Wright, which lack a) having a development tool for each machine tool component, b) sharing variable name, and c) having the machine tool components include two or more of: a display, a supervision device, and a programmable controller. Almond and Wright, taken alone or in any conceivable combination, fail to teach or suggest the unique features of claim 1.

Claims 3, 4, and 11 are patentable at least by virtue of their dependency on claim 1.

Claims 12 and 13 have been canceled.

Next, independent claim 5 recites features analogous to the ones argued above with respect to claim 1. Accordingly, analogous arguments are applicable to claim 5. For at least similar exemplary reasons, therefore, claim 5 is patentable over the combined teachings of Almond and Wright.

Claims 2 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Almond and Wright, and further in view of “Versions and Change Notification in an Object-Oriented Database System” by Chou et al. (hereinafter “Chou”). Claim 2 depends on claim 1 and claim 10 recites features analogous to the ones argued above with respect to claim 1.

Accordingly, claim 10 is patentable over the combined teachings of Almond and Wright. Chou is only cited for its teaching of change notifications (*see* pages 10 and 11 of the Office Action) and as such fails to cure the deficiencies in the teachings of Almond and Wright. Accordingly, claims 1 and 10 are patentable over the combined teachings of Almond, Wright, and Chou.

Claim 2 is patentable at least by virtue of its dependency on claim 1.

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Claims 6, 8, and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over “Using the SNAP Development Environment”, 1998, Template Software, SNAP Version 8.0, Chapters 2 and 3 (hereinafter “the SNAP Publication”) and U.S. Patent No. 6,173,438 to Kodosky et al. (hereinafter “Kodosky”), and further in view of U.S. Patent No. 5,907,705 to Carter (hereinafter “Carter”).¹ Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Almond, Wright, and Carter, and further in view of “Linkers & Loaders” by Levine (hereinafter “the Levine Publication”). Applicant respectfully traverses these rejections in view of the following comments.

Claims 6-9 depend on claim 5. As noted above, the combined teachings of Almond and Wright do not suggest the unique features of claim 5. Carter is only cited for its teachings of notifications and storing data (*see* pages 11 and 12 of the Office Action) and as such fails to cure the deficiencies in the teachings of Almond and Wright. Similarly, Levine is only cited for the detection of overlap (*see* page 12 of the Office Action) and as such fails to cure the deficiencies in the teachings of Almond and Wright. Accordingly, claim 5 is patentable over Almond, Wright, Carter, and Levine, taken alone or in any conceivable combinations. Claims 6-9 are patentable at least by virtue of their dependency on claim 5.

¹ Applicant believes the Examiner intended to reject claims 6, 8, and 9 as being unpatentable over Almond and Wright in view of Carter, as independent claim 5, from which claims 6, 8, and 9 depend, is rejected as being unpatentable over Almond in view of Wright.

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New Claims

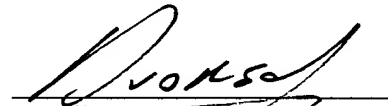
In order to provide more varied protection, Applicant adds claims 14-17. Claims 14-17 are patentable at least by virtue of their dependency on claim 1.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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